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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,128	07/24/2001	Regina Schmitt	2000 P 14920 US	4047

7470 7590 07/05/2005

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EXAMINER	
KENDALL, CHUCK O	

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,128	SCHMITT ET AL.	
	Examiner	Art Unit	
	Chuck Kendall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26 and 29-56* is/are pending in the application.

4a) Of the above claim(s) *1-25,27 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26 and 29-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/21/04 & 3/09/05*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *06/22/05*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. This action is in response to the amendment filed 04/06/2005.

2. Claims 1 – 25, 27, and 28 have been cancelled. Claims 26 and 29 – 56 are still pending.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10038441.2,10038440.4, and 10038439.0 all filed, on August 7, 2000.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 26, 29 – 38, 41 – 46, and 48 – 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Sadre et al. (U.S. Patent Number 5,485,620).

In regard to Claim 26, Sadre anticipates a method of debugging a program for an industrial controller having an engineering system an editor for linking graphical

elements and a runtime system represented by a flowchart visualized on a display, the including:

(a) preparing a debugging process based on the flowchart (see FIG. 28 and FIG.30).

(b) assigning suspend command to each graphic element (27:63 – 65, see suspension of the currently executing application program and refer to FIG. 12, for graphic icon (element));

(c) commencing the debug process(17: 55 – 57, see "suspnd" and "resume");

(d) continuing the debugging process until a suspend command is reached (18: 8 – 11);

(e) displaying the location of the flowchart element corresponding to the suspend command (16:37 – 43);

(f) continuing a task corresponding to a graphical element of the flowchart, that has been suspended by a suspend command, using a task control mechanism of the run-time system (25:20 – 25,see Diagnostic Utility 252);

proceeding to the next possible suspend command 17: 47 – 50, see suspend and normal operations continue).

In regard to Claim 29, the method of Claim 26, wherein task control mechanism of the run time system comprises breakpoint debugging where variables can be pre-assigned by the user in the engineering system, comprising the step of pre-assigning variables corresponding to breakpoints (24:60 – 25:15).

In regard to Claim 30, method of Claim 29, debugging is done by means of debugging tools, and not the task control mechanism (24:40 – 45, see debugger).

In regard to Claim 31, method of Claim 26, generating a structured textual language from the flowchart, converting the language into processor-independent pseudo code, loading the code into a controller, and converting the code in executable processor code (22:54 – 59).

In regard to Claim 32, method of Claim 26, a debugging interface available to a user at the structured textual language levels and pseudo-code level (See 14: 5, for structured text, and FIG. 26,B for pseudo-code).

In regard to Claim 33, method of Claim 26, programming language commands are provided in the flowchart editor as a function of configuration of hardware associated with an industrial controller (20:30 – 65, see CONFIGURATION UTILITY SUBSYTEM AND LOGIC EDITOR SUBSYSTEM).

In regard to Claim 34, the method of Claim 26, wherein additional graphical elements are generated in the flowchart by converting user-defined structured text subprograms of the textual language into graphical elements comprising function interfaces of the corresponding structured text subprograms (22:54 – 59).

In regard to Claim 35, method of Claim 34, the graphical elements are used a language elements of the flowchart, in that each element can correspond to an element of a programming language (26:21 – 30).

In regard to Claim 36, method of Claim 26, the structured text according to IEC 6-1131 is used as a structured textual language (14:6 – 8).

In regard to Claim 37, method of Claim 36, a user can switch between structured textual language, contact plan, and function plan as forms of representation for formulation conditions (19:14 – 20).

In regard to Claim 38, method of Claim 26, loop programming language command is in the flowchart view (see 3:67 for loop and 6:55 for chart functions, which the loop is part of, since it is continuous).

In regard to Claim 41, method of Claim 26, function blocks are combined into modules that are in turn presented as function blocks in a display associated with the motion control flowchart view (18:13 – 25, see motion control).

In regard to Claim 42, method of claim 41, where the function blocks are interleaved in the motion control flowchart view (25:60 – 26:5)

In regard to Claim 43, method of Claim 41, function blocks comprise underlying source code statements, and also for display associated with the motion control flowchart (18:13 – 35, see motion control and structured text).

In regard to Claim 44, method of Claim 41, function blocks representing functions that require a given period of time comprise advance conditions in the flowchart view (20:23 – 20).

In regard to Claim 45, the method of Claim 26, the graphical elements of the flowchart are positioned automatically (9:47 – 50).

In regard to Claim 46, the method of Claim 26, graphical elements are linked automatically (9:45 – 50).

In regard to Claim 48, the method according to 31, retranslation back into motion control flowchart representation by means of marks in the textual language (11:25 – 27, refers to FIG. 10, showing structured translation).

In regard to Claim 49, the method according to 26, wherein step a) through c) are triggered in a collective step (see FIG. 23A - 23B).

In regard to Claim 50, the method according to 26, during the processing of the flowchart, a currently processed graphical element is displayed (16:25 – 30).

In regard to Claim 51, which claims similarly to claim 32 see rationale as previously discussed above.

In regard to Claim 52, which claims similarly to claim 26, see rationales as previously discussed above.

In regard to Claim 53, the method according to claim 52, wherein the programming code comprises a plurality of code level at least a subset of the plurality of debugging processes corresponds to respective ones of the plurality of code levels, (for plurality of code level see 14: 5, for structured text, and FIG. 26,B for pseudo-code) and the stop of displaying debugging processes comprises displaying at least a subset of the debugging processes on respective ones of the plurality of debugging interfaces (17:62 – 18:15, see suspend also see stop).

In regard to Claim 54, the method according to 52, wherein the plurality of code levels comprises a pseudo code level and a debugging process is prepared for the pseudo code level (25: 20 – 2, see Diagnostic utility and structured text for pseudo code level).

In regard to Claim 55, which claims similarly to claim 26 see rationale as previously discussed above.

In regard to Claim 56, which claims similarly to claim 32 see rationale as previously discussed above.

6. Claim 39, is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadre et al. (U.S. Patent Number 5,485,620, art being made of record) as applied in claim 38, in view of Sara (U.S. Patent Number 4,837,722, art of record).

In regard to Claim 39, Sadre discloses all the claimed limitations as applied in claim 38 above. Sadre does expressly disclose that a parallel branch wherein individual commands are initiated in a given interpolator cycle within a respective parallel branch. Sara, however, does teach performing operations in parallel within an interpolator cycle (Column 2, lines 45-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform to combine Sadre, with a parallel branch wherein individual commands are initiated in a given interpolator cycle within a respective parallel branch as taught by Sara, since this allows for faster execution of similar instructions.

7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadre et al. (U.S. Patent Number 5,485,620) as applied in claim 26, in view of Messerges et al. (U.S. Patent Number 6,295,606, art of record).

In regard to Claim 40, Sadre discloses all the claimed limitations as applied in claim 26 above. Sadre doesn't explicitly disclose that parameters can be set for function blocks by mask input in the flowchart view. However, Messerges does disclose using mask input for function input parameters (Column 2, lines 64-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Sadre, with the mask input in the flowchart view, as taught by Messerges, since this aids cryptographic functions to produce more secure output.

8. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadre et al. (U.S. Patent Number 5,485,620) as applied in claim 26.

In regard to Claim 47, Sadre discloses all the claimed limitations of as applied in claim 26 above. Although, Sadre doesn't expressly show the flowchart is displayed in a reduced form and an enlarged form, Examiner takes official notice that reducing and enlarging the display is an old and well known practice and has been for years in the Graphics field to enlarge/zoom in and zoom out of graphs and graphical representations.

Response to Arguments

9. Applicant's arguments with respect to claims 26, 29 – 56 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 703-3086608. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 703-3054552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CK

WEI Y. ZHEN
PRIMARY EXAMINER